

DENTSPLY CERCON BASE

ChemWatch Material Safety Data Sheet
Issue Date: Mon 11-Oct-2004

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Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME

DENTSPLY CERCON BASE

SYNONYMS

! 06/03

PRODUCT USE

Dental restorations.

SUPPLIER

Company: Dentsply (Australia) Pty Ltd (ABN: 15 004 290 322)

Address:

11-21 Gilby Road

Mount Waverley

VIC, 3149

AUS

Telephone: +61 03 9538 8240

Emergency Tel: 0413 830 239

Fax: 03 9538 8260

Section 2 - HAZARDS IDENTIFICATION

STATEMENT OF HAZARDOUS NATURE

NON-HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.

According to the Criteria of NOHSC, and the ADG Code.

POISONS SCHEDULE

None

RISK

Ingestion may produce health damage*.

May produce discomfort of the eyes and skin*.

* (limited evidence)

SAFETY

Wear eye/face protection.

Take off immediately all contaminated clothing.

In case of contact with eyes, rinse with plenty of water and contact Doctor or Poisons Information Centre.

If you feel unwell contact Doctor or Poisons Information Centre. (Show the label if possible).

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Section 2 - HAZARDS IDENTIFICATION ...

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
zirconium dioxide	1314-23-4	>60

Section 4 - FIRST AID MEASURES

SWALLOWED

- Immediately give a glass of water.
- First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

EYE

If this product comes in contact with the eyes:

- Wash out immediately with fresh running water.
- Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.
- If pain persists or recurs seek medical attention.
- Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

SKIN

If skin contact occurs:

- Immediately remove all contaminated clothing, including footwear
- Flush skin and hair with running water (and soap if available).
- Seek medical attention in event of irritation.

INHALED

- If fumes or combustion products are inhaled remove from contaminated area.
- Other measures are usually unnecessary.

NOTES TO PHYSICIAN

Treat symptomatically.

Section 5 - FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

- There is no restriction on the type of extinguisher which may be used. Use extinguishing media suitable for surrounding area

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Section 5 - FIRE FIGHTING MEASURES ...

FIRE FIGHTING

- Alert Fire Brigade and tell them location and nature of hazard.
- Wear breathing apparatus plus protective gloves for fire only.
- Prevent, by any means available, spillage from entering drains or water courses.
- Use fire fighting procedures suitable for surrounding area.
- DO NOT approach containers suspected to be hot.
- Cool fire exposed containers with water spray from a protected location.
- If safe to do so, remove containers from path of fire.
- Equipment should be thoroughly decontaminated after use.

FIRE/EXPLOSION HAZARD

- Non combustible.
 - Not considered a significant fire risk, however containers may burn.
- Decomposition may produce toxic fumes of

FIRE INCOMPATIBILITY

None known.

HAZCHEM

None

Personal Protective Equipment

PERSONAL PROTECTION EQUIPMENT

Gloves, boots (chemical resistant)

Section 6 - ACCIDENTAL RELEASE MEASURES

EMERGENCY PROCEDURES

MINOR SPILLS

- Clean up all spills immediately.
- Avoid breathing vapours/ aerosols/ or dusts and avoid contact with skin and eyes.
- Control personal contact by using protective equipment.
- Contain and absorb spill with sand, earth, inert material or vermiculite.
- Place in a suitable labelled container for waste disposal.

MAJOR SPILLS

- Clean up all spills immediately.
- Wear protective clothing, safety glasses, dust mask, gloves.
- Secure load if safe to do so. Bundle/collect recoverable product.
- Use dry clean up procedures and avoid generating dust.
- Vacuum up (consider explosion-proof machines designed to be grounded during storage and use).
- Water may be used to prevent dusting.

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Section 6 - ACCIDENTAL RELEASE MEASURES ...

- Collect remaining material in containers with covers for disposal.
- Flush spill area with water.

Personal Protective Equipment advice is contained in Section 8 of the MSDS.

Section 7 - HANDLING AND STORAGE

PROCEDURE FOR HANDLING

- Avoid all personal contact, including inhalation.
- Wear protective clothing when risk of exposure occurs.
- Use in a well-ventilated area.
- Prevent concentration in hollows and sumps.
- DO NOT enter confined spaces until atmosphere has been checked.
- DO NOT allow material to contact humans, exposed food or food utensils.
- Avoid contact with incompatible materials.
- When handling, DO NOT eat, drink or smoke.
- Keep containers securely sealed when not in use.
- Avoid physical damage to containers.
- Always wash hands with soap and water after handling.
- Work clothes should be laundered separately. Launder contaminated clothing before re-use.
- Use good occupational work practice.
- Observe manufacturer's storing and handling recommendations.
- Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained.

SUITABLE CONTAINER

No restriction on the type of containers. Packing as recommended by manufacturer. Check all material is clearly labelled.

STORAGE INCOMPATIBILITY

None known

STORAGE REQUIREMENTS

- Store in original containers.
- Keep containers securely sealed.
- Store in a cool, dry, well-ventilated area.
- Store away from incompatible materials and foodstuff containers.
- Protect containers against physical damage and check regularly for leaks.
- Observe manufacturer's storing and handling recommendations.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE CONTROLS

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Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION ...

EXPOSURE STANDARDS FOR MIXTURE

"Worst Case" computer-aided prediction of spray/ mist or fume/ dust components and concentration:

Composite Exposure Standard for Mixture (TWA) :5 mg/m³.

Operations which produce a spray/mist or fume/dust, introduce particulates to the breathing zone.

If the breathing zone concentration of ANY of the components listed below is exceeded, "Worst Case" considerations deem the individual to be overexposed.

Component Breathing Zone ppm Breathing Zone mg/m³ Mixture Conc (%)

Component	Breathing Zone (mg/m ³)	Mixture Conc (%)
zirconium dioxide	5.0000	100.0

INGREDIENT DATA

ZIRCONIUM DIOXIDE:

TLV TWA: 5 mg/m³ as Zr A4 [ACGIH]

TLV STEL: 10 mg/m³ as Zr A4 [ACGIH]

ES TWA: 5 mg/m³; STEL: 10 mg/m³

TLV TWA: 5 mg/m³; STEL: 10 mg/m³

OES TWA: 5 mg/m³; STEL: 10 mg/m³

IDLH Level: 50 mg/m³

OSHA concluded that the recommended TLV-TWA and STEL would protect workers from any significant risk of pulmonary effects. NIOSH conclude that a separate limit should be considered for zirconium tetrachloride (because of the irritancy of hydrogen chloride derived from hydrolysis). This was based on a 60-day inhalation study at 6 mg/m³ zirconium tetrachloride which found an increase in mortality of rats and guinea pigs due to respiratory infection and reductions of borderline statistical significance in circulating hemoglobin and erythrocyte counts in dogs.

PERSONAL PROTECTION

EYE

- Safety glasses with side shields
- Chemical goggles.
- Contact lenses pose a special hazard; soft lenses may absorb irritants and all lenses concentrate them.

HANDS/FEET

Wear chemical protective gloves, eg. PVC.

Wear safety footwear or safety gumboots, eg. Rubber

OTHER

- Overalls.
- P.V.C. apron.

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Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION ...

- Barrier cream.
- Skin cleansing cream.
- Eye wash unit.

RESPIRATOR

Selection of the Class and Type of respirator will depend upon the level of breathing zone contaminant and the chemical nature of the contaminant. Protection Factors (defined as the ratio of contaminant outside and inside the mask) may also be important.

Breathing Zone Level ppm (volume)	Maximum Protection Factor	Half-face Respirator	Full-Face Respirator
1000	10	-AUS P	-
1000	50	-	-AUS P
5000	50	Airline *	-
5000	100	-	-2 P
10000	100	-	-3 P
	100+		Airline**

* - Continuous Flow ** - Continuous-flow or positive pressure demand

The local concentration of material, quantity and conditions of use determine the type of personal protective equipment required. For further information consult site specific CHEMWATCH data (if available), or your Occupational Health and Safety Advisor.

ENGINEERING CONTROLS

General exhaust is adequate under normal operating conditions. Local exhaust ventilation may be required in specific circumstances. If risk of overexposure exists, wear approved respirator. Correct fit is essential to obtain adequate protection. Provide adequate ventilation in warehouse or closed storage areas.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

White, odourless solid; does not mix with water.

PHYSICAL PROPERTIES

Does not mix with water.

Molecular Weight: Not Applicable
Melting Range (°C): >1900
Solubility in water (g/L): Immiscible
pH (1% solution): Not Applicable
Volatile Component (%vol): Not Applicable
Relative Vapour Density (air=1): Not Applicable
Lower Explosive Limit (%): Not Applicable
Autoignition Temp (°C): Not Applicable

Boiling Range (°C): Not Applicable
Specific Gravity (water=1): Not Available
pH (as supplied): Not Applicable
Vapour Pressure (kPa): Not Applicable
Evaporation Rate: Not Applicable
Flash Point (°C): Not Applicable
Upper Explosive Limit (%): Not Applicable
Decomposition Temp (°C): Not Available

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Section 9 - PHYSICAL AND CHEMICAL PROPERTIES ...

State: Manufactured

Section 10 - CHEMICAL STABILITY AND REACTIVITY INFORMATION

CONDITIONS CONTRIBUTING TO INSTABILITY

- Presence of incompatible materials.
- Product is considered stable.
- Hazardous polymerisation will not occur.

Section 11 - TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS

ACUTE HEALTH EFFECTS

SWALLOWED

Accidental ingestion of the material may be damaging to the health of the individual.

EYE

Hazard relates to dust released by cutting, grinding, trimming or other shaping operations.
There is some evidence to suggest that this material can cause eye irritation and damage in some persons.

SKIN

Hazard relates to dust released by cutting, grinding, trimming or other shaping operations.
There is some evidence to suggest that this material can cause inflammation of the skin on contact in some persons.
Skin contact is not thought to have harmful health effects (as classified under EC Directives); the material may still produce health damage following entry through wounds, lesions or abrasions.
The external application of zirconium can cause nodules in the skin of the armpits.

INHALED

Hazard relates to dust released by cutting, grinding, trimming or other shaping operations.
The material is not thought to produce either adverse health effects or irritation of the respiratory tract following inhalation (as classified by EC Directives using animal models). Nevertheless, adverse systemic effects have been produced following exposure of animals by at least one other route and good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting.

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Section 11 - TOXICOLOGICAL INFORMATION ...

Not normally a hazard due to non-volatile nature of product

CHRONIC HEALTH EFFECTS

Long-term exposure to the product is not thought to produce chronic effects adverse to the health (as classified by EC Directives using animal models); nevertheless exposure by all routes should be minimised as a matter of course.

Dentsply Cercon Base

Not available. Refer to individual constituents.
unless otherwise specified data extracted from RTECS - Register of Toxic Effects of Chemical Substances

ZIRCONIUM DIOXIDE:

No significant acute toxicological data identified in literature search.

Section 12 - ECOLOGICAL INFORMATION

DO NOT discharge into sewer or waterways.

Section 13 - DISPOSAL CONSIDERATIONS

- Consult manufacturer for recycling options and recycle where possible .
 - Consult State Land Waste Management Authority for disposal.
 - Incinerate residue at an approved site.
 - Recycle containers if possible, or dispose of in an authorised landfill.
- Puncture containers to prevent re-use and bury at an authorised landfill.

Section 14 - TRANSPORTATION INFORMATION

Shipping Name:

None

Dangerous Goods Class: None

UN/NA Number: None

ADR Number: None

Packing Group: None

Labels Required:

Additional Shipping Information:

International Transport Regulations:

IMO: None

HAZCHEM

None

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Section 15 - REGULATORY INFORMATION

POISONS SCHEDULE

None

REGULATIONS

The following substances are found on Australian Inventory of Chemical Substances (AICS):
zirconium dioxide (CAS: 1314-23-4)

Section 16 - OTHER INFORMATION

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